



Standpipe Systems – Types, Inspection, Testing, and Maintenance

Standpipe systems are the pipes, valves, and connections that are installed in a building and arranged to provide attachment points for fire hoses. The National Fire Protection Association (NFPA) publishes standards that provide requirements for the classification, identification, inspection, testing, and maintenance of standpipe systems. The following is a summary of these requirements.

Standpipe Classifications

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, establishes the classification system for standpipe systems, based on the hose connection provided, as follows:

- Class I standpipes are designed for use with 2½-in (65-mm) hoses and are intended for heavy fire streams [i.e., 250 gpm (946 lpm)] operated by the fire department. Class I standpipes are typically not provided with pre-connected fire hoses.
- Class II standpipes are designed for use with 1½-in (40-mm) hoses and are intended for use by trained occupants or the fire department. Class II standpipes are typically provided with pre-connected fire hoses [i.e., 100 gpm (378 lpm)].
- Class III standpipes are designed for use with both 1½-in (40-mm) and 2½-in (65-mm) hoses. Class III standpipes are typically equipped with 1½-in (40-mm) fire hoses for use by trained occupants and a 2½-in (65-mm) hose connection for fire department use.

Standpipes are also broken down into types, based on the presence of water in the system. They may be wet (i.e., fully charged with water) or dry (i.e., maintained without water until manually supplied with water).

Identification

An important first step in establishing an inspection program is clearly marking each control valve and hose connection to facilitate recordkeeping and communication of problems to management regarding specific deficiencies. NFPA 14 requires identification and signage for standpipe systems, including:

- Individual numbering of valves and hose connections.
- A visible warning as to the importance of the fire protection system, such as “fire hose - keep clear at all times.”
- The intended use of the standpipe, such as “for fire department use only.”

Inspection

While simple in design and operation, standpipe systems do require a regular inspection program to ensure that they operate correctly when needed. NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, requires that a standpipe system be visually inspected on a regular basis. The visual inspection should verify that:

- The system has no physical damage or leakage.
- All control handles are in place.
- Hose and cap gaskets are not dry-rotted.
- The equipment is labeled and accessible.



Key areas requiring inspection include:

Weekly:

- All valves, except valves secured with locks or otherwise supervised, which can be inspected monthly.
- Gauges on dry, pre-action, and deluge valves for standpipes should be inspected for normal air and water pressure; automatic standpipes can be inspected monthly.

Annually:

- All standpipe pressure-regulating devices
- Piping
- Hose connections
- Hose nozzles
- All hoses, hose storage devices, and hose cabinets.

Testing

NFPA 25 also requires regular testing of standpipe systems to ensure that the components will operate properly and safely. Testing of system components should be performed by trained service persons, using procedures established by the equipment manufacturer and the appropriate NFPA standards. The following testing frequency should be followed:

Semi-Annually:

- Alarm devices
- Valve supervisory devices
- Supervisory signal devices

Annually:

- Hose nozzles
- Hose storage devices
- Main drain

Five Years:

- Hoses. Pressure test after 5 years of installation and every 3 years thereafter
- Control valves, pressure-reducing valves, and a system flow test
- Dry standpipe system piping. Hydrostatic test every 5 years
- Full flow test

Maintenance

At least annually, all valves and hose connections should be lubricated and operated to ensure smooth operation and all hoses removed from racks and reloaded to change the orientation of the folds.



COPYRIGHT ©2012, ISO Services, Inc.

CH-25-25 10/15/12

The information, suggestions and recommendations contained herein are for general informational purposes only. This information has been compiled from sources believed to be reliable. Risk Consulting Services do not address every possible loss potential, law, rule, regulation, practice or procedure. No warranty, guarantee, or representation, either expressed or implied, is made as to the correctness or sufficiency of any such service. Reliance upon, or compliance with, any recommendation in no way guarantees any result, including without limitation the fulfillment of your obligations under your insurance policy or as may otherwise be required by any laws, rules or regulations. No responsibility is assumed for the discovery and/or elimination of any hazards that could cause accidents, injury or damage. The information contained herein should not be construed as financial, accounting, tax or legal advice and does not create an attorney-client relationship.

This document is not intended to replace any recommendations from your equipment manufacturers. If you are unsure about any particular testing or maintenance procedure, please contact the manufacturer or your equipment service representative.

American International Group, Inc. (AIG) is a leading global insurance organization. AIG member companies provide a wide range of property casualty insurance, life insurance, retirement solutions, and other financial services to customers in more than 80 countries and jurisdictions. These diverse offerings include products and services that help businesses and individuals protect their assets, manage risks and provide for retirement security. AIG common stock is listed on the New York Stock Exchange. Additional information about AIG can be found at www.aig.com | YouTube: www.youtube.com/aig | Twitter: @AIGinsurance www.twitter.com/AIGinsurance | LinkedIn: www.linkedin.com/company/aig. These references with additional information about AIG have been provided as a convenience, and the information contained on such websites is not incorporated by reference into this document.

AIG is the marketing name for the worldwide property-casualty, life and retirement, and general insurance operations of American International Group, Inc. For additional information, please visit our website at www.aig.com. All products and services are written or provided by subsidiaries or affiliates of American International Group, Inc. Products or services may not be available in all countries and jurisdictions, and coverage is subject to underwriting requirements and actual policy language. Non-insurance products and services may be provided by independent third parties. Certain property-casualty coverages may be provided by a surplus lines insurer. Surplus lines insurers do not generally participate in state guaranty funds, and insureds are therefore not protected by such funds.

© American International Group, Inc. All rights reserved.